

CLAIMS

1. A laminate of a multi-layer structure, comprising at least one alicyclic polymer layer (A), at least one thermoplastic resin layer (B) and at least one layer (C) of a resin composition comprising an alicyclic polymer and a thermoplastic resin.

2. The laminate according to Claim 1, wherein the thermoplastic resin contained in the resin composition layer (C) is a linear low density polyolefin having a long period of at most 275 angstroms as measured by the small angle X-ray scattering method

3. The laminate according to Claim 1, wherein the alicyclic polymer forming the alicyclic polymer layer (A) is a norbornene polymer.

4. The laminate according to Claim 3, wherein the norbornene polymer is a hydrogenated product of a ring-opening polymer of a norbornene monomer.

5. The laminate according to Claim 1, wherein the multi-layer structure is composed of:

(i) thermoplastic resin layer (B)/resin composition layer (C)/alicyclic polymer layer (A),

(ii) thermoplastic resin layer (B)/resin composition layer

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(C)/alicyclic polymer layer (A)/resin composition layer (C)/thermoplastic resin layer (B), or

(iii) thermoplastic resin layer (B)/alicyclic polymer layer (A)/resin composition layer (C)/alicyclic polymer layer (A)/thermoplastic resin layer (B).

6. The laminate according to Claim 1, wherein the total thickness ratio [(A):(B)] of the alicyclic polymer layer (A) to the thermoplastic resin layer (B) is 1:99 to 70:30.

7. The laminate according to Claim 1, wherein the thickness proportion of the resin composition layer (C) is 5 to 100% based on the total thickness (100%) of the alicyclic polymer layer (A) and the thermoplastic resin layer (B).

8. The laminate according to Claim 1, wherein the thickness of the alicyclic polymer layer (A) is 0.1 to 180 μm , the thickness of the thermoplastic resin layer (B) is 0.2 to 250 μm , and the thickness of the resin composition layer (C) is 0.07 to 75 μm .

9. The laminate according to Claim 1, wherein the thickness is 0.5 μm to 5 mm.

10. The laminate according to Claim 1, which is in

the form of a film or sheet.

11. The laminate according to Claim 1, which is formed in the form of a container.

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12. A laminate of a multi-layer structure, comprising at least one alicyclic polymer layer (A), at least one thermoplastic resin layer (B) and at least one resin layer (D) comprising a linear low density polyolefin
10 having a long period of at most 275 angstroms as measured by the small angle X-ray scattering method.

13. The laminate according to Claim 12, wherein the linear low density polyolefin has a long period of at most
15 275 angstroms as measured by the small angle X-ray scattering method, and a lamellar thickness of at most 145 angstroms.

14. The laminate according to Claim 12, wherein the
20 linear low density polyolefin is an ethylene- α -olefin copolymer obtained by polymerization making use of a metallocene catalyst.

15. The laminate according to Claim 12, wherein the
25 multi-layer structure is composed of alicyclic polymer layer (A)/resin layer (D)/thermoplastic resin layer (B).

16. The laminate according to Claim 12, wherein the resin layer (D) contains only a linear low density polyolefin having a long period of at most 275 angstroms as measured by the small angle X-ray scattering method as a
5 resin component.

17. A resin composition comprising an alicyclic polymer and a linear low density polyolefin having a long period of at most 275 angstroms as measured by the small
10 angle X-ray scattering method.

18. A process for producing a multi-layer laminate, which comprises melting and kneading a laminate material comprising at least one alicyclic polymer layer (A) and at
15 least one thermoplastic resin layer (B) to prepare a resin composition, and then extruding the resin composition, and an alicyclic polymer or a thermoplastic resin or both alicyclic polymer and thermoplastic resin.

19. The production process according to Claim 18, wherein the extrusion comprises the steps of extruding the resin materials at a resin temperature of 200 to 300°C through a T-die, taking up the extruded laminate by take-up
20 rolls preset to a temperature of 40 to 100°C and then
25 cooling the laminate.